IWS Fuller

Access DB# 83365

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BEN SACKEY Examiner #: 73459 Date: 12/31/02
Art Unit: 1626 Phone Number 305-6889 Serial Number: 09/737,286
Mail Box and Bldg/Room Location: CM1 5E11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

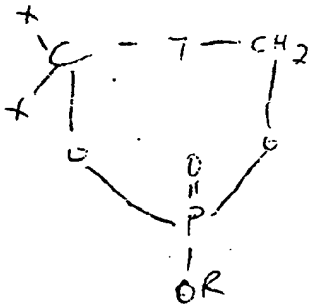
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Cyclic glycerophosphates and analogs thereof

Inventors (please provide full names): Meir Shinitzky

Earliest Priority Filing Date: 3/25/95

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*



Please search this compound and compositions containing the compound.

Y is $(CH_2)_m$; -CH(OH)-; -C(=O)- m is 0-3

X is H, alkyl; $-CH_2OH$, CH_2Oacyl, $-CH_2$acyl)

R is H, a cation, alkyl or optionally substituted acyl

****

STAFF USE ONLY

Searcher: _____

Type of Search

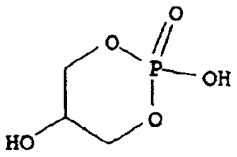
NA Sequence (#)

STN

Vendors and cost where applicable

Ben

L18 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 2000:336094 CAPLUS
DN 133:117815
TI Induction of intracellular signalling by cyclic glycerophosphates and their deoxy analogues
AU Shinitzky, Meir; Haimovitz, Rachel; Nemas, Mara; Cahana, Nava; Mamillapalli, Ramanaiah; Seger, Rony
CS Department of Biological Chemistry, The Weizmann Institute of Science, Rehovot, 76100, Israel
SO European Journal of Biochemistry (2000), 267(9), 2547-2554
CODEN: EJBCAI; ISSN: 0014-2956
PB Blackwell Science Ltd.
DT Journal
LA English
AB Cyclic glycerophosphates can be formed by enzymic degrdn. of phospholipids. They have only recently attracted attention, and their physiol. function is still obscure. In this study, we have searched for signalling functions of the natural 1,3-cyclic and 1,2-cyclic glycerophosphates, their deoxy analogs, and the Ph esters of the 1,3-cyclic phosphates. Linear sn-glycerol 3-phosphate and glycerol 2-phosphate served as the control compds. Each of the six-membered ring cyclic phosphates tested induced rapid intracellular tyrosine phosphorylation in CHO and NIH-3T3 cells when applied extracellularly at a concn. of 0.5-4 .mu.M. The phosphorylated intracellular proteins had mol. masses of .apprxeq. 35 kDa, .apprxeq. 45 kDa, 60-70 kDa and .apprxeq. 120 kDa. The five-membered ring cyclic phosphates had a similar effect, but at an external concn. of 2-10 .mu.M, while sn-glycerol 3-phosphate and glycerol 2-phosphate had no effect. The six-membered cyclic phosphates also induced rapid threonine phosphorylation in CHO cells of .apprxeq. 18-kDa, .apprxeq. 35-kDa, and .apprxeq. 38-kDa proteins. Further expts. indicated that the cyclic phosphates partition rapidly into the cell cytosol where they activate kinases, including mitogen-activated protein kinase. When their intracellular level increases, dephosphorylation presumably takes place. This pattern may account for the signalling profile of cyclic phosphates and suggests that they may take part in processes assocd. with cell differentiation.
IT **42320-97-8 286020-33-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(induction of intracellular signaling by cyclic glycerophosphates and their deoxy analogs)
RN 42320-97-8 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide (9CI) (CA INDEX NAME)



RN 286020-33-5 CAPLUS

Ben

L17 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 1993:534139 CAPLUS
DN 119:134139
TI Formation of 1,3-cyclic glycerophosphate by the action of phospholipase C on phosphatidylglycerol
AU Shinitzky, Meir; Friedman, Peter; Haimovitz, Rachel
CS Dep. Membrane Res. Biophys., Weizmann Inst. Sci, Rehovot, 76100, Israel
SO Journal of Biological Chemistry (1993), 268(19), 14109-15
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB The action of phospholipase C (PLC) from Bacillus cereus on phosphatidylglycerol (PG), derived from egg yolk phosphatidylcholine (PC), was examd. in an ether-water mixt. The PLC cleavage of PG and PC followed a Michaelis-Menten kinetics with apparent Vmax values per 1 .mu.g enzyme of 0.26 and 0.91 .mu.mol.min-1 and Km values of 10 and 12 mM, resp. When the same enzymic reaction was carried out in minimally buffered aq. soln. of 1% Triton X-100, the decrease in pH with respect to phospholipid cleavage was as expected with PC but much less pronounced with PG. This could be accounted for by .alpha.-glycerophosphate, in the PLC hydrolysis of PG. Examn. of the chem. nature of the water-sol. product of PG by 31P NMR revealed a single band at 2.31 ppm, while the bands of .alpha.-glycerophosphate and .beta.-glycerophosphate appeared at 5.12 and 4.57 ppm, resp. Basic hydrolysis of the phospholipase cleavage product of PG (0.1 M NaOH for 1 min at 80 .degree.C) followed by neutralization shifted its 31P NMR band to 5.18 ppm, which practically coincided with that of .alpha.-glycerophosphate. Analogous expts. were carried out with PG labeled with 3H at the carbon 2 of the glycerol headgroup ([3H]PG). Autoradiog. of thin layer chromatog. (TLC) of the [3H]PG enzymic hydrolyzate displayed a single 3H-labeled compd., which could be converted to .alpha.-glycerophosphate by basic hydrolysis. These results strongly suggest that the phosphate headgroup of PG is cleaved off by PLC as 1,3-cyclic glycerophosphate. A series of PLC expts. with phosphatidyldihydroxyacetone and phosphatidyl 1,3-propanediol as model substrates supported this assignment. Two-dimensional homonuclear 1H NMR correlated spectra as well as IR spectra carried out on the isolated sodium salt of this product could further confirm such a structure. The unique structure and chem. nature of 1,3-cyclic glycerophosphate may bear a distinct physiol. function.
IT **149864-37-9**
RL: FORM (Formation, nonpreparative)
(formation of, by phospholipase C cleavage of phosphatidylhydroxyacetone)
RN 149864-37-9 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-one, 2-hydroxy-, 2-oxide (9CI) (CA INDEX NAME)

Ben

L18 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 2000:706968 CAPLUS
DN 133:261549
TI Cyclic glycerophosphates and analogs for treatment of malignancies
IN Shinitzky, Meir
PA Yeda Research and Development Co. Ltd., Israel
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000057864	A2	20001005	WO 2000-IL184	20000324
	WO 2000057864	A3	20010531		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1162979	A2	20011219	EP 2000-912876	20000324
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002540145	T2	20021126	JP 2000-607615	20000324
PRAI	IL 1999-129179	A	19990325		
	WO 2000-IL184	W	20000324		

OS MARPAT 133:261549

AB Cyclic glycerophosphates as well as some analogs thereof (CGs) are shown to increase phosphorylation of intracellular proteins in various cells. Such activity is not found with linear .alpha.- or .beta.-glycerophosphates. The phosphorylating activity of the CGs render them useful in the prevention and treatment of various disorders and diseases such as, for example, different kinds of malignancies as well as disorders involving hormone and hormone-like signaling. The CGs are also useful for promotion of target cell differentiation and for detection of abnormal conditions in target cells. For example, CHO cells were incubated with 1 or 2 .mu.M of 1,3-cyclic propanediol phosphate for 1, 3, 5, and 10 min at 37.degree.. The level of tyrosine phosphorylated proteins in the cell was detd. using monoclonal anti-phosphotyrosine antibodies. Phosphorylation was most markedly seen in the band(s) having a mol. wt. of .apprx. 35 and 45 kilodalton.

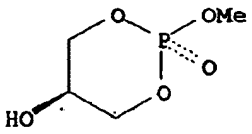
IT **298701-05-0P**
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(cyclic glycerophosphates for treatment of malignancies and disorders involving hormone-related signaling)

RN 298701-05-0 CAPLUS

Ben

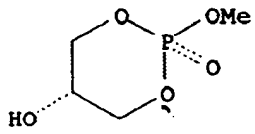
L18 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1986:591264 CAPLUS
DN 105:191264
TI Structure of two isomeric 1,3,2-dioxaphosphorinanes
AU Jones, A. S.; Kumar, A.; Walker, R. T.
CS Chem. Dep., Birmingham Univ., Birmingham, B15 2TT, UK
SO Journal of Organic Chemistry (1986), 51(22), 4310-11
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 105:191264
AB The 2 isomer 5-hydroxy-2-methoxy-1,3,2-dioxaphosphacyclohexane 2-oxide were prepd. sep. by stereospecific syntheses, and their structures were confirmed by 13C, 31P and 1H and x-ray crystallog.
IT **104532-42-5P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and configuration of, carbon-13 and phosphorus-31 and proton NMR in relation to)
RN 104532-42-5 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-methoxy-, 2-oxide, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IT **104532-44-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., crystal structure, and carbon-13, phosphorus-31, and proton NMR of)
RN 104532-44-7 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-methoxy-, 2-oxide, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



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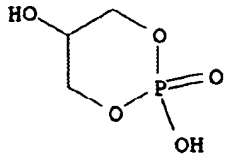
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide, barium salt (9CI) (CA INDEX NAME)

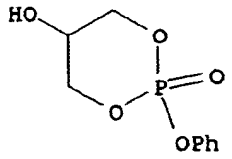


●x Ba

IT **286020-33-5P**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(cyclic glycerophosphates for treatment of malignancies and disorders involving hormone-related signaling)

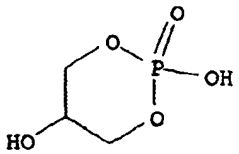
RN 286020-33-5 CAPLUS

CN 1,3,2-Dioxaphosphorinan-5-ol, 2-phenoxy-, 2-oxide (9CI) (CA INDEX NAME)



Ben

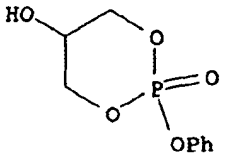
L18 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 2000:336094 CAPLUS
DN 133:117815
TI Induction of intracellular signalling by cyclic glycerophosphates and their deoxy analogues
AU Shinitzky, Meir; Haimovitz, Rachel; Nemas, Mara; Cahana, Nava; Mamillapalli, Ramanaiah; Seger, Rony
CS Department of Biological Chemistry, The Weizmann Institute of Science, Rehovot, 76100, Israel
SO European Journal of Biochemistry (2000), 267(9), 2547-2554
CODEN: EJBCAI; ISSN: 0014-2956
PB Blackwell Science Ltd.
DT Journal
LA English
AB Cyclic glycerophosphates can be formed by enzymic degrdn. of phospholipids. They have only recently attracted attention, and their physiol. function is still obscure. In this study, we have searched for signalling functions of the natural 1,3-cyclic and 1,2-cyclic glycerophosphates, their deoxy analogs, and the Ph esters of the 1,3-cyclic phosphates. Linear sn-glycerol 3-phosphate and glycerol 2-phosphate served as the control compds. Each of the six-membered ring cyclic phosphates tested induced rapid intracellular tyrosine phosphorylation in CHO and NIH-3T3 cells when applied extracellularly at a concn. of 0.5-4 .mu.M. The phosphorylated intracellular proteins had mol. masses of .apprxeq. 35 kDa, .apprxeq. 45 kDa, 60-70 kDa and .apprxeq. 120 kDa. The five-membered ring cyclic phosphates had a similar effect, but at an external concn. of 2-10 .mu.M, while sn-glycerol 3-phosphate and glycerol 2-phosphate had no effect. The six-membered cyclic phosphates also induced rapid threonine phosphorylation in CHO cells of .apprxeq. 18-kDa, .apprxeq. 35-kDa, and .apprxeq. 38-kDa proteins. Further expts. indicated that the cyclic phosphates partition rapidly into the cell cytosol where they activate kinases, including mitogen-activated protein kinase. When their intracellular level increases, dephosphorylation presumably takes place. This pattern may account for the signalling profile of cyclic phosphates and suggests that they may take part in processes assocd. with cell differentiation.
IT **42320-97-8 286020-33-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(induction of intracellular signaling by cyclic glycerophosphates and their deoxy analogs)
RN 42320-97-8 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide (9CI) (CA INDEX NAME)



RN 286020-33-5 CAPLUS

Ben

CN 1,3,2-Dioxaphosphorinan-5-ol, 2-phenoxy-, 2-oxide (9CI) (CA INDEX NAME)

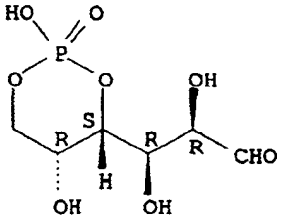


RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

Ben

L18 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1998:348369 CAPLUS
DN 129:106351
TI Structure of the O-antigen of Vibrio cholerae O155 that shares a putative D-galactose 4,6-cyclophosphate-associated epitope with V. cholerae O139 Bengal
AU Senchenkova, Sof'ya N.; Zatonsky, Georgy V.; Shashkov, Alexander S.; Knirel, Yuriy A.; Jansson, Per-Erik; Weintraub, Andrej; Albert, M. John
CS Karolinska Institute, Clinical Research Center, Huddinge University Hospital, Huddinge, S-141 86, Swed.
SO European Journal of Biochemistry (1998), 254(1), 58-62
CODEN: EJBCAI; ISSN: 0014-2956
PB Springer-Verlag
DT Journal
LA English
AB The O-specific polysaccharide of Vibrio cholerae O155 was studied by sugar and methylation analyses, dephosphorylation with 48% hydrofluoric acid, 1H- and 13C-NMR spectroscopy, including two-dimensional COSY, TOCSY, NOESY, and heteronuclear single-quantum coherence (HSQC) expts. The structure of the pentasaccharide repeating unit of the polysaccharide was established. An unusual component, D-galactose 4,6-cyclophosphate, has been reported previously as a component of the capsular polysaccharide and O-antigen of V. cholerae O139 Bengal and appears to be responsible for the known serol. cross-reactivity between V. cholerae O139 and O155.
IT **91740-36-2**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(in structure of O antigen of Vibrio cholerae)
RN 91740-36-2 CAPLUS
CN D-Galactose, cyclic 4,6-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

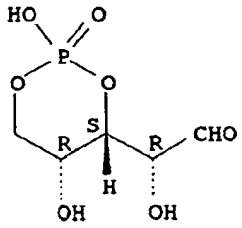


RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

Ben

L18 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1996:487442 CAPLUS
DN 125:276356
TI Studies on the reactivity of bis-glycoaldehyde phosphodiester in alkaline solution
AU Cook, Stephen D.; Sutherland, John D.
CS Dyson Perrins Lab., Oxford, OX1 3QY, UK
SO Tetrahedron Letters (1996), 37(32), 5779-5782
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier
DT Journal
LA English
AB The behavior of bis-glycoaldehyde phosphodiester in alk. soln. has previously been investigated by reducing, dephosphorylating and acetylating the products. The detection of threitol and erythritol tetraacetates by GC coupled with kinetics arguments suggested that bis-glycoaldehyde phosphodiester undergoes rapid intramol. aldolization to give a mixt. of erythrose and threose-2,4-cyclophosphates. In this paper, electrospray mass spectroscopy, deuteration studies and comparison with synthetic materials are used to confirm and augment these earlier findings.
IT **182256-14-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(studies on intramol. aldolization of bis-glycoaldehyde phosphodiester in alk. soln. by mass spectra)
RN 182256-14-0 CAPLUS
CN D-Xylose, cyclic 3,5-(hydrogen phosphate), monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

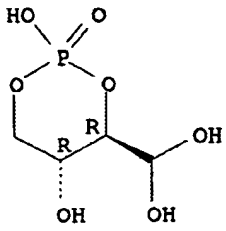


● Na

IT **182255-92-1P 182255-98-7P 182256-23-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(studies on intramol. aldolization of bis-glycoaldehyde phosphodiester in alk. soln. by mass spectra)
RN 182255-92-1 CAPLUS
CN Methanediol, (2,5-dihydroxy-2-oxido-1,3,2-dioxaphosphorinan-4-yl)-, monosodium salt, trans- (9CI) (CA INDEX NAME)

Ben

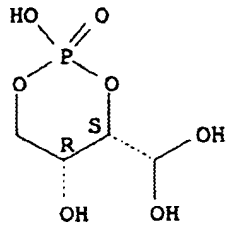
Relative stereochemistry.



● Na

RN 182255-98-7 CAPLUS
CN Methanediol, (2,5-dihydroxy-2-oxido-1,3,2-dioxaphosphorinan-4-yl)-, monosodium salt, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.

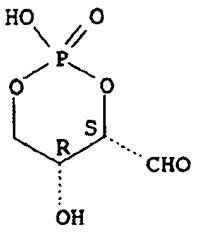


● Na

RN 182256-23-1 CAPLUS
CN 1,3,2-Dioxaphosphorinane-4-carboxaldehyde, 2,5-dihydroxy-, 2-oxide, monosodium salt, (4S-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Ben

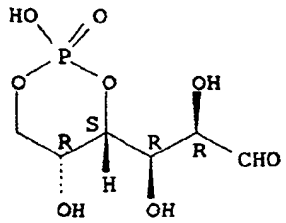


● Na

Ben

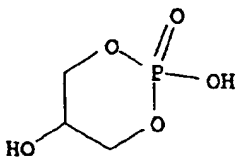
L18 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1995:835104 CAPLUS
DN 124:48797
TI Structure of the capsular polysaccharide of Vibrio cholerae O139 synonym Bengal containing D-galactose 4,6-cyclophosphate
AU Knirel, Yuriy A.; Paredes, Liliana; Jansson, Per-Erik; Weintraub, Andrej; Widmalm, Goeran; Albert, M. John
CS Karolinska Inst., Huddinge Univ. Hosp., Huddinge, S-141 86, Swed.
SO European Journal of Biochemistry (1995), 232(2), 391-6
CODEN: EJBCAI; ISSN: 0014-2956
PB Springer
DT Journal
LA English
AB The capsular polysaccharide (CPS) of V. cholerae O139 synonym Bengal, which is thought to carry determinants of O-specificity, was isolated. The CPS contained D-galactose, 3,6-dideoxy-L-xylo-hexose (colitose, Col), 2-acetamido-2-deoxy-D-glucose, 2-acetamido-2,6-dideoxy-D-glucose, D-galacturonic acid, and phosphate. The CPS was studied by NMR spectroscopy, methylation anal., and selective degrdns., including partial acid hydrolysis at pH 3.1 and dephosphorylation with aq. 48% HF, which both resulted in complete cleavage of Col. Thus, CPS is built up of hexasaccharide repeating units contg. inter alia D-galactose 4,6-cyclophosphate and the structure of the V. cholerae CPS proposed by L. M. Preston et al. (1995) was confirmed.
IT **91740-36-2**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(structure of the capsular polysaccharide of Vibrio cholera O139 synonym Bengal contg. D-galactose 4,6-cyclophosphate)
RN 91740-36-2 CAPLUS
CN D-Galactose, cyclic 4,6-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



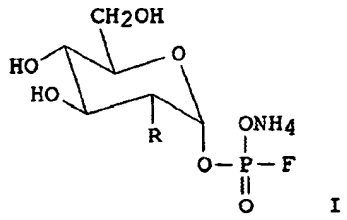
Ben

(18) ANSWER 9 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1993:534139 CAPLUS
DN 119:134139
TI Formation of 1,3-cyclic glycerophosphate by the action of phospholipase C on phosphatidylglycerol
AU Shinitzky, Meir; Friedman, Peter; Haimovitz, Rachel
CS Dep. Membrane Res. Biophys., Weizmann Inst. Sci, Rehovot, 76100, Israel
SO Journal of Biological Chemistry (1993), 268(19), 14109-15
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB The action of phospholipase C (PLC) from Bacillus cereus on phosphatidylglycerol (PG), derived from egg yolk phosphatidylcholine (PC), was examd. in an ether-water mixt. The PLC cleavage of PG and PC followed a Michaelis-Menten kinetics with apparent Vmax values per 1 .mu.g enzyme of 0.26 and 0.91 .mu.mol.min-1 and Km values of 10 and 12 mM, resp. When the same enzymic reaction was carried out in minimally buffered aq. soln. of 1% Triton X-100, the decrease in pH with respect to phospholipid cleavage was as expected with PC but much less pronounced with PG. This could be accounted for by .alpha.-glycerophosphate, in the PLC hydrolysis of PG. Examn. of the chem. nature of the water-sol. product of PG by 31P NMR revealed a single band at 2.31 ppm, while the bands of .alpha.-glycerophosphate and .beta.-glycerophosphate appeared at 5.12 and 4.57 ppm, resp. Basic hydrolysis of the phospholipase cleavage product of PG (0.1 M NaOH for 1 min at 80 .degree.C) followed by neutralization shifted its 31P NMR band to 5.18 ppm, which practically coincided with that of .alpha.-glycerophosphate. Analogous expts. were carried out with PG labeled with 3H at the carbon 2 of the glycerol headgroup ([3H]PG). Autoradiog. of thin layer chromatog. (TLC) of the [3H]PG enzymic hydrolyzate displayed a single 3H-labeled compd., which could be converted to .alpha.-glycerophosphate by basic hydrolysis. These results strongly suggest that the phosphate headgroup of PG is cleaved off by PLC as 1,3-cyclic glycerophosphate. A series of PLC expts. with phosphatidyldihydroxyacetone and phosphatidyl 1,3-propanediol as model substrates supported this assignment. Two-dimensional homonuclear 1H NMR correlated spectra as well as IR spectra carried out on the isolated sodium salt of this product could further confirm such a structure. The unique structure and chem. nature of 1,3-cyclic glycerophosphate may bear a distinct physiol. function.
IT **42320-97-8**
RL: FORM (Formation, nonpreparative)
(formation of, by phospholipase C cleavage of phosphatidylglycerol)
RN 42320-97-8 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide (9CI) (CA INDEX NAME)



Ben

L18 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1992:59761 CAPLUS
DN 116:59761
TI Synthesis and testing of sugar phosphofluoridates and cyclic phosphates as
inhibitors of phosphoglucomutase
AU Percival, M. David; Withers, Stephen G.
CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
SO Journal of Organic Chemistry (1992), 57(3), 811-17
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
GI

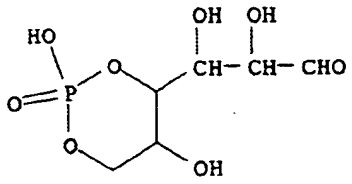


I

AB Three aldose phosphofluoridates, e.g. I (R = OH, F), have been synthesized
from the parent phosphate and 2,4-dinitrofluorobenzene, and the mechanism of fluorination has been investigated. Another modified aldose phosphate,
.alpha.-D-glucopyranosyl 4,6-cyclic phosphate [phosphate] has also been synthesized as an analog of 6-phospho-.alpha.-D-glucopyranosyl phosphate. These compds. were tested as possible mechanism-based inactivators of rabbit muscle phosphoglucomutase, but no time-dependent inactivation was obsd. They were, however, found to be reversible inhibitors of phosphoglucomutase, and comparison of their dissocn. consts. with those of
the parent phosphates revealed that the removal of a single neg. charge weakens ground-state binding by approx. 11 kJ/mol. Further, the absence of any detectable phosphorylation of these analogs reveals that this second charge is even more important for transition-state interactions, contributing at least 40 kJ/mol to transition-state stability. This suggests that the parent substrates bind to the enzyme and react in their dianionic forms, and it provides a measure of the value of charge-charge interactions at the active site of this key metabolic enzyme.

IT **138385-97-4**
RL: PROC (Process)
(pyridinium salt formation of)
RN 138385-97-4 CAPLUS
CN D-Glucose, cyclic 4,6-(hydrogen phosphate), monoammonium salt (9CI) (CA INDEX NAME)

Ben



● NH_3

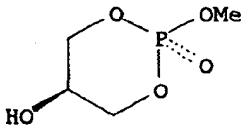
Ben

L18 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1986:636193 CAPLUS
DN 105:236193
TI Structure of 5-hydroxy-2-methoxy-1,3,2.lambda.5-dioxaphosphacyclohexane 2-oxide
AU Hamor, T. A.
CS Dep. Chem., Univ. Birmingham, Birmingham, B15 2TT, UK
SO Acta Crystallographica, Section C: Crystal Structure Communications (1986), C42(10), 1462-3
CODEN: ACSCEE; ISSN: 0108-2701
DT Journal
LA English
AB The title compd. is orthorhombic, space group Pna21, with a 10.825(5), b 9.342(4), and c 6.839(4) .ANG.; dc = 1.61 for Z = 4. The final R = 0.035 for 642 reflections. The 6-membered ring has a distorted chair conformation; the positions of the MeO and OH groups are axial. Angles at P are within 7.5.degree. of tetrahedral. The at. coordinates are given.
IT **105435-62-9**
RL: PRP (Properties)
(structure of)
RN 105435-62-9 CAPLUS

Ben

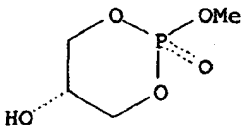
L18 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1986:591264 CAPLUS
DN 105:191264
TI Structure of two isomeric 1,3,2-dioxaphosphorinanes
AU Jones, A. S.; Kumar, A.; Walker, R. T.
CS Chem. Dep., Birmingham Univ., Birmingham, B15 2TT, UK
SO Journal of Organic Chemistry (1986), 51(22), 4310-11
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 105:191264
AB The 2 isomer 5-hydroxy-2-methoxy-1,3,2-dioxaphosphacyclohexane 2-oxide were prepd. sep. by stereospecific syntheses, and their structures were confirmed by 13C, 31P and 1H and x-ray crystallog.
IT **104532-42-5P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and configuration of, carbon-13 and phosphorus-31 and proton NMR in relation to)
RN 104532-42-5 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-methoxy-, 2-oxide, cis- (9CI) (CA INDEX NAME)

Relative stereochemistry.



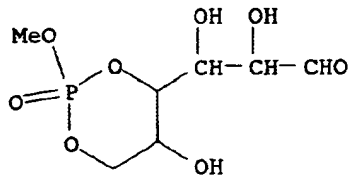
IT **104532-44-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., crystal structure, and carbon-13, phosphorus-31, and proton NMR of)
RN 104532-44-7 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-methoxy-, 2-oxide, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.

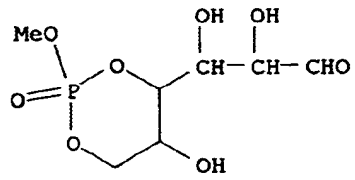


Ben

L18 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1982:85915 CAPLUS
DN 96:85915
TI Analysis of the chirality of oxygen-16, -17, and -18 phosphate esters by phosphorus-31 nuclear magnetic resonance spectroscopy
AU Jarvest, Richard L.; Lowe, Gordon; Potter, Barry V. L.
CS Dyson Perrins Lab., Oxford Univ., Oxford, OX1 3QY, UK
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1981), (12), 3186-95
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
AB Cyclization of 17O- and 18O-labeled D-glucose 6-phosphate and adenosine 5'-phosphate to the corresponding conformationally locked 6-membered cyclic phosphate diesters occurs with inversion of configuration, as shown by comparison of the 31P NMR signals of the cyclic diesters with 17O- and 18O-labeled phosphate esters of known abs. configuration.
IT **76542-71-7P 76542-72-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and NMR of phosphorus in)
RN 76542-71-7 CAPLUS
CN D-Glucose, cyclic 4,6-(methyl phosphate), (S)- (9CI) (CA INDEX NAME)



RN 76542-72-8 CAPLUS
CN D-Glucose, cyclic 4,6-(methyl phosphate), (R)- (9CI) (CA INDEX NAME)

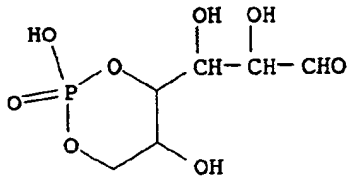


IT **80796-56-1P 80796-59-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and methylation of)
RN 80796-56-1 CAPLUS
CN D-Glucose, cyclic 4,6-(hydrogen phosphate), compd. with pyridine (1:1) (9CI) (CA INDEX NAME)

CM 1

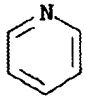
Ben

CRN 2946-06-7
CMF C6 H11 O8 P

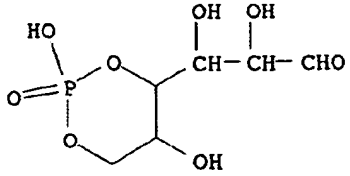


CM 2

CRN 110-86-1
CMF C5 H5 N



RN 80796-59-4 CAPLUS
CN D-Glucose, cyclic 4,6-(hydrogen phosphate), monopotassium salt (9CI) (CA INDEX NAME)



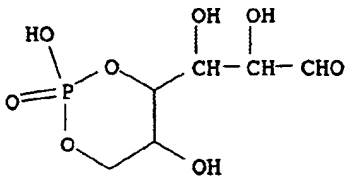
● K

IT **80796-58-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 80796-58-3 CAPLUS
CN D-Glucose, cyclic 4,6-(hydrogen phosphate), compd. with N,N-dioctyl-1-octanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

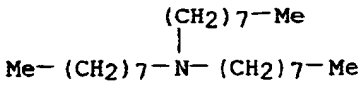
CRN 2946-06-7
CMF C6 H11 O8 P

Ben



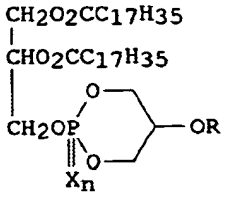
CM 2

CRN 1116-76-3
CMF C24 H51 N

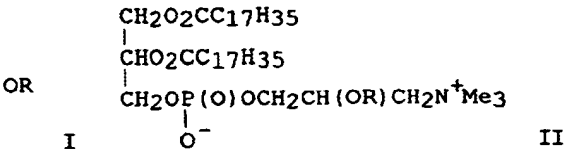


Ben

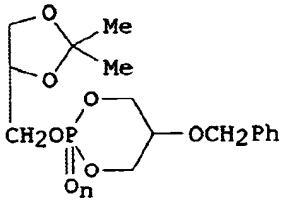
L18 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1982:20068 CAPLUS
DN 96:20068
TI Synthesis of lipids and their models from glycerol alkylenephosphites. V.
Cyclic phosphatidylglycerol and phosphatidyloxyhomocholine
AU Predvoditelev, D. A.; Chukbar, T. G.; Zeleneva, T. P.; Nifant'ev, E. E.
CS Mosk. Gos. Univ., Moscow, USSR
SO Zhurnal Organicheskoi Khimii (1981), 17(6), 1305-15
CODEN: ZORKAE; ISSN: 0514-7492
DT Journal
LA Russian
GI



I



II



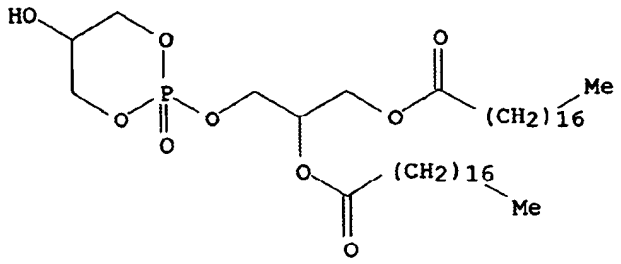
III

AB Treatment of 1,2-distearoylglycerin with 2-benzylglycerin diethylamidophosphite gave cyclic compd. I (n = 0); R = benzyl, which was easily converted to I (n = 1, X = O, S). Hydrogenation of I (n = 1, X = O, S, R = benzyl) gave I (R = H). Treatment of I (X = O, n = 1, R = benzyl) with NMe3 gave the ring cleavage product II (R = benzyl), which was hydrogenated to give II (R = H). II (R = H) was also obtained by reaction of I (n = 1, X = O, R = H) with NMe3. Phosphorylation of 1,2-O-isopropylideneglycerin gave phosphite III (n = 0), which was oxidized to give III (n = 1). 2-Benzylglycerin was also phosphorylated to give several cyclic compds.

IT **80197-15-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with trimethylamine)

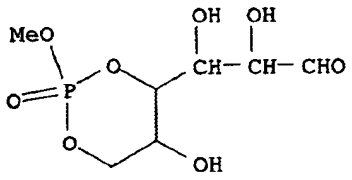
RN 80197-15-5 CAPLUS
CN Octadecanoic acid, 1-[[(5-hydroxy-2-oxido-1,3,2-dioxaphosphorinan-2-yl)oxy]methyl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Ben

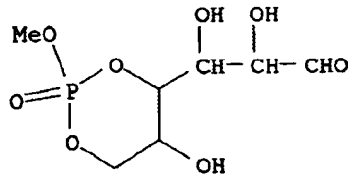


Ben

L18 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1981:84399 CAPLUS
DN 94:84399
TI A stereochemical investigation of the cyclization of D-glucose-6[(R)-16O,17O,18O]-phosphate and adenosine-5'[(R)-16O,17O,18O]phosphate
AU Jarvest, Richard L.; Lowe, Gordon; Potter, Barry V. L.
CS Dyson Perrins Lab., Oxford Univ., Oxford, OX1 3QY, UK
SO Journal of the Chemical Society, Chemical Communications (1980), (23), 1142-5
CODEN: JCCCAT; ISSN: 0022-4936
DT Journal
LA English
AB D-Glucose 6[(R)-16O, 17O, 18O]phosphate (I) and adenosine 5'[(R)-16O, 17O, 18O]phosphate (II) were cyclized [(PhO)2POCl, dioxane, then Bu3N, dioxane] to give the 4,6-phosphate and 3',5'-phosphate diesters, resp. The reaction occurred with retention of configuration at the P. The abs. configurations of I and II were detd. by 31P-NMR.
IT **76542-71-7P 76542-72-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and abs. configuration of, phosphorus NMR in relation to)
RN 76542-71-7 CAPLUS
CN D-Glucose, cyclic 4,6-(methyl phosphate), (S)- (9CI) (CA INDEX NAME)



RN 76542-72-8 CAPLUS
CN D-Glucose, cyclic 4,6-(methyl phosphate), (R)- (9CI) (CA INDEX NAME)



Ben

L18 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1980:200147 CAPLUS
DN 92:200147
TI Betaine derivatives
PA Johnson and Johnson, USA; Mona Industries, Inc.
SO Neth. Appl., 54 pp.
CODEN: NAXXAN
DT Patent
LA Dutch
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 7903526	A	19791107	NL 1979-3526	19790504
	NL 193247	B	19981201		
	NL 193247	C	19990402		
	US 4181634	A	19800101	US 1978-902121	19780505
	US 4215064	A	19800729	US 1978-965461	19781130
	US 4261911	A	19810414	US 1978-965462	19781130
	CA 1110640	A1	19811013	CA 1979-326454	19790426
	IN 151133	A	19830226	IN 1979-CA442	19790501
	BE 876055	A1	19791105	BE 1979-195007	19790504
	GB 2020289	A	19791114	GB 1979-15709	19790504
	GB 2020289	B2	19830112		
	BR 7902725	A	19791120	BR 1979-2725	19790504
	FR 2424925	A1	19791130	FR 1979-11364	19790504
	FR 2424925	B1	19880520		
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	JP 63040798	B4	19880812		
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	ZA 7902156	A	19801231	ZA 1979-2156	19790504
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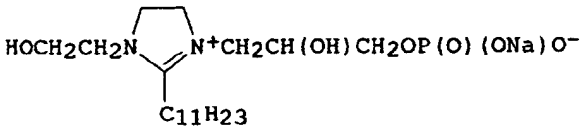
	US 1979-95182		19791116		

GI



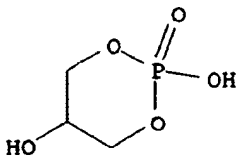
II

AB Surfactants (>35) such as RCONH(CH2)3N+Me2CH2CH(OH)CH2OP(O)(OH)O- (R = C7-17 alkyl) (I), RCONH(CH2)3N+Me2CH2CH2OP(O)(ONa)O- (R = C7-17 alkyl), Me(CH2)10CONH(CH2)3N+Et2CH2CH(OH)CH2OP(O)[OCH2CH(OH)CH2OH]O- [73603-28-8], compd. II [73603-29-9], and Me(CH2)10CONHCH2CH2N+(CH2CH2OH)

Ben

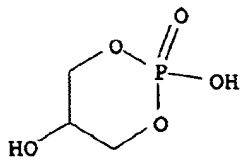
(CH2CO2Na)CH2CH(OH)CH2OP(O)(ONa)O- [73614-34-3] are prepd. by the reaction of an (alkanamidopropyl)dimethylamine, 2-alkyl-1-(2-hydroxyethyl)-2-imidazoline, N-(2-alkanamidoethyl)-N-(2-hydroxyethyl)glycine, or similar compd. with ClCH2CH(OH)CH2OP(O)(OH)ONa (III) [1866-22-4], [ClCH2CH(OH)CH2O]2P(O)ONa, ClCH2CH2OP(O)(OH)ONa [73603-14-2], or a similar compd. The surfactants are useful as foaming agents, detergents, antistatic agents, etc. Thus, III and RNH(CH2)3NMe2 (R = coconut acyl) were used to prep. I.

IT **68900-73-2P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(manuf. and reaction of, with tertiary amines)
RN 68900-73-2 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide, monosodium salt (9CI) (CA INDEX NAME)



● Na

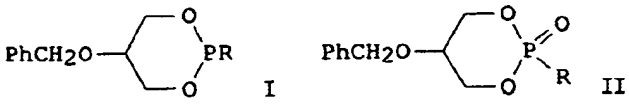
IT **68900-73-2DP**, reaction products with tertiary amines
RL: PREP (Preparation)
(manuf. of surface-active)
RN 68900-73-2 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide, monosodium salt (9CI) (CA INDEX NAME)



● Na

Ben

L18 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1977:584127 CAPLUS
DN 87:184127
TI Glycero-2-hydroxytrimethylene phosphates
AU Predvoditelev, D. A.; Chukbar, T. G.; Ivanov, V. I.; Nifant'ev, E. E.
CS Mosk. Gos. Pedagog. Inst., Moscow, USSR
SO Zhurnal Organicheskoi Khimii (1977), 13(8), 1612-16
CODEN: ZORKAE; ISSN: 0514-7492
DT Journal
LA Russian
GI

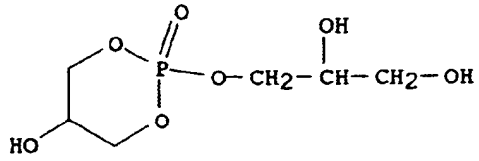


I II

AB PhCH2OCH(CH2OH)2 reacted with P(NEt2)3 at 95-120.degree. to give dioxaphosphoranes I (R = NEt2), which reacted with 1,2-isopropylidene- and 1,3-benzylideneglycerol at 120.degree. to give I (R = 1,2-isopropylidene-3- and 1,3-benzylidene-2-glyceryloxy). Oxidn. of these with NO gave the corresponding phosphate II, which were hydrolyzed to II (R = 3- and 2-glyceryloxy, resp.), hydrogenolysis of which gave 2'- and 3'-glycero-2-hydroxytrimethylene phosphate.

IT **64528-52-5P 64528-53-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 64528-52-5 CAPLUS
CN 1,2-Propanediol, 3-[(5-hydroxy-2-oxido-1,3,2-dioxaphosphorinan-2-yl)oxy]- (9CI) (CA INDEX NAME)



RN 64528-53-6 CAPLUS
CN 1,3-Propanediol, 2-[(5-hydroxy-2-oxido-1,3,2-dioxaphosphorinan-2-yl)oxy]- (9CI) (CA INDEX NAME)

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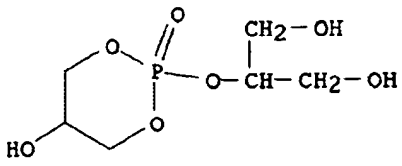

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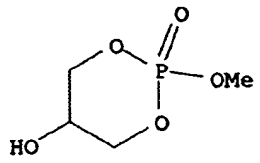
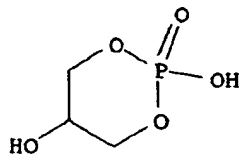
L18 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1973:418684 CAPLUS
DN 79:18684
TI Preparation and chemistry of 2,6,7-trioxa-1-phosphabicyclo[2.2.1]heptane
AU Denney, Donald B.; Varga, Sandor L.
CS Sch. Chem., Rutgers State Univ., New Brunswick, NJ, USA
SO Phosphorus and the Related Group V Elements (1973), 2(5-6), 245-8
CODEN: PHUSBV; ISSN: 0369-9722
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB HOCH2CH, (OH)CH2OH was heated with (MeO)3P in SF-96 silicone fluid at 115-120.degree. and the resulting 2,6,7-trioxa-1-phosphabicyclo[2.2.1]heptane oxidized with N2O4 to give the trioxaphosphabicycloheptane oxide I. I and MeOH gave the phosphate II.
IT **41852-35-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 41852-35-1 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-methoxy-, 2-oxide (9CI) (CA INDEX NAME)



Ben

L18 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1973:431419 CAPLUS
DN 79:31419
TI Synthesis of sn-glycerol-cyclic-phosphodiester isomers. I
AU Buchnea, Dmytro
CS Banting Best Dep. Med. Res., Univ. Toronto, Toronto, ON, Can.
SO Lipids (1973), 8(5), 289-94
CODEN: LPDSAP; ISSN: 0024-4201
DT Journal
LA English
AB A procedure for the synthesis of stereochem. pure sn-glycerol-cyclic-phosphatediesters was developed. The following isomers were synthesized: sn-glycerol-2,3-, 1,2-, 1,3-cyclic-phosphate diesters and the racemic mixt. The 2,3- and 1,2-cyclic-phosphate diesters and their racemate are thick liqs. and are unstable; therefore they were converted into Ba(glycerol-cyclic-phosphate diester)2 salts, which can be better stored. The six-membered ring sn-glycerol-1,3-cyclic-phosphate diester is a cryst. stable compd.
IT **42320-97-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 42320-97-8 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-hydroxy-, 2-oxide (9CI) (CA INDEX NAME)



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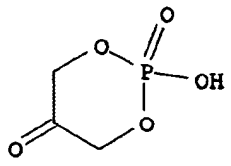

Y=C(=O)

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L17 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2000:706969 CAPLUS
DN 133:261536
TI Pharmaceutical compositions comprising cyclic glycerophosphates and analogs thereof for promoting neural cell differentiation
IN Shinitzky, Meir
PA Yeda Research and Development Co. Ltd., Israel
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000057865	A2	20001005	WO 2000-IL185	20000324
	WO 2000057865	A3	20010628		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	BR 2000009296	A	20011218	BR 2000-9296	20000324
	EP 1162959	A2	20011219	EP 2000-912877	20000324
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002540146	T2	20021126	JP 2000-607616	20000324
PRAI	IL 1999-129178	A	19990325		
	WO 2000-IL185	W	20000324		

OS MARPAT 133:261536
AB Cyclic glycerophosphates and analogs thereof (CGs) are shown to exert neural promoting activities in target cells. Such activities include promotion of neuronal outgrowth, promotion of nerve growth, provision of dopaminotrophic supporting environment in a diseased portion of the brain, prevention of nerve degeneration and nerve rescue. These activities of the CGs render them useful for treatment of various disorders including but not limited to mental disorders such as, for example, schizophrenia, dementia or disorders resulting in learning disabilities. In addn., these CGs may be used for the treatment of neurodegenerative conditions such as Alzheimer's disease, Parkinson's disease, conditions resulting from exposure to harmful environmental factors or resulting from a mech. injury. The CGs may also be used to treat an individual suffering from a primary neurodegenerative condition in order to prevent or reduce the appearance of secondary degeneration in addnl. nerves ("nerve rescue"). For example, neural outgrowth of PC12 cells was seen when cells were grown in the presence of nerve growth factor (50 ng/mL) or 1,3-cyclic glycerophosphate (1 .mu.M), but not in the presence of linear .alpha.-glycerophosphate.
IT **298701-09-4P 298701-78-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

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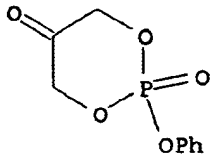
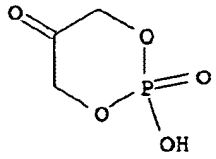
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(compns. comprising cyclic glycerophosphates for promoting neural differentiation for therapeutic uses)

RN 298701-09-4 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-one, 2-phenoxy-, 2-oxide (9CI) (CA INDEX NAME)



RN 298701-78-7 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-one, 2-hydroxy-, 2-oxide, barium salt (9CI) (CA
INDEX NAME)



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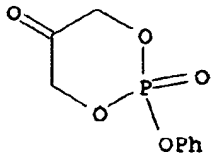
L17 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2002:1329 CAPLUS
DN 136:325601
TI The first synthesis of a cyclic dihydroxyacetone phosphate, a new molecule
of biological importance
AU Goswami, Shyamaprosad; Adak, Avijit Kumar
CS Department of Chemistry, Bengal Engineering College (Deemed University), Howrah, West Bengal, 711 103, India
SO Tetrahedron Letters (2002), 43(3), 503-505
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
OS CASREACT 136:325601
AB A six-membered cyclic dihydroxyacetone phosphate (CDHAP) (2-oxo-2-phenoxy-2.lambda.5-[1,2,3]-dioxaphosphinane-5-one) which is a new
and interesting mol. of biol. interest has been synthesized for the first time. Though dihydroxyacetone phosphate (DHAP) is very well known and is the precursor for enzymic synthesis of sugars, the six-membered cyclic dihydroxyacetone phosphate and its synthesis have not been reported to our
knowledge. Thus, reaction of (PhO)P(O)Cl2 with CH2:C(CH2OH)2 in CH2Cl2 gave 5-methylene-2-oxo-2-phenoxy[1,2,3]dioxaphosphorinane which on ozonolysis in the presence of DMS in CH2Cl2 gave title compd., 2-oxo-2-phenoxy-2.lambda.5-[1,2,3]-dioxaphosphinane-5-one.
IT **298701-09-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 298701-09-4 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-one, 2-phenoxy-, 2-oxide (9CI) (CA INDEX NAME)



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L17 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2000:706968 CAPLUS
DN 133:261549
TI Cyclic glycerophosphates and analogs for treatment of malignancies
IN Shinitzky, Meir
PA Yeda Research and Development Co. Ltd., Israel
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000057864	A2	20001005	WO 2000-IL184	20000324
	WO 2000057864	A3	20010531		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1162979	A2	20011219	EP 2000-912876	20000324
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002540145	T2	20021126	JP 2000-607615	20000324
PRAI	IL 1999-129179	A	19990325		
	WO 2000-IL184	W	20000324		

OS MARPAT 133:261549
AB Cyclic glycerophosphates as well as some analogs thereof (CGs) are shown to increase phosphorylation of intracellular proteins in various cells. Such activity is not found with linear .alpha.- or .beta.-glycerophosphates. The phosphorylating activity of the CGs render them useful in the prevention and treatment of various disorders and diseases such as, for example, different kinds of malignancies as well as disorders involving hormone and hormone-like signaling. The CGs are also useful for promotion of target cell differentiation and for detection of abnormal conditions in target cells. For example, CHO cells were incubated with 1 or 2 .mu.M of 1,3-cyclic propanediol phosphate for 1, 3, 5, and 10 min at 37.degree.. The level of tyrosine phosphorylated proteins in the cell was detd. using monoclonal anti-phosphotyrosine antibodies. Phosphorylation was most markedly seen in the band(s) having a mol. wt. of .apprx. 35 and 45 kilodalton.
IT **298701-09-4P 298701-78-7P**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(cyclic glycerophosphates for treatment of malignancies and disorders involving hormone-related signaling)
RN 298701-09-4 CAPLUS

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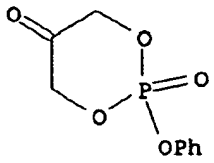
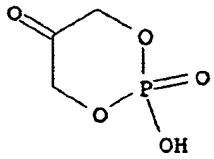
CN 1,3,2-Dioxaphosphorinan-5-one, 2-phenoxy-, 2-oxide (9CI) (CA INDEX NAME)



RN 298701-78-7 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-one, 2-hydroxy-, 2-oxide, barium salt (9CI) (CA
INDEX NAME)



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L18 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2003 ACS
AN 1973:418684 CAPLUS
DN 79:18684
TI Preparation and chemistry of 2,6,7-trioxa-1-phosphabicyclo[2.2.1]heptane
AU Denney, Donald B.; Varga, Sandor L.
CS Sch. Chem., Rutgers State Univ., New Brunswick, NJ, USA
SO Phosphorus and the Related Group V Elements (1973), 2(5-6), 245-8
CODEN: PHUSBV; ISSN: 0369-9722
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB HOCH2CH, (OH)CH2OH was heated with (MeO)3P in SF-96 silicone fluid at 115-120.degree. and the resulting 2,6,7-trioxa-1-phosphabicyclo[2.2.1]heptane oxidized with N2O4 to give the trioxaphosphabicycloheptane oxide I. I and MeOH gave the phosphate II.
IT **41852-35-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 41852-35-1 CAPLUS
CN 1,3,2-Dioxaphosphorinan-5-ol, 2-methoxy-, 2-oxide (9CI) (CA INDEX NAME)